



PTO/SB/21 (09-04)

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Total Number of Pages in This Submission

Application Number	10/849,404
Filing Date	May 18, 2004
First Named Inventor	Pan, Shaoher X.
Art Unit	2873
Examiner Name	Richard E. Hanig
Attorney Docket Number	021713-002321US

ENCLOSURES (Check all that apply)

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Townsend and Townsend and Crew LLP		
Signature			
Printed name	Craig C. Largent		
Date	2/15/06	Reg. No.	56,400

CERTIFICATE OF TRANSMISSION/MAILING

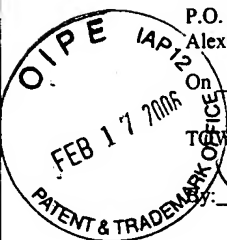
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PATENT
Docket No.: 021713-002321US



On 2/15/06
TOWNSEND and TOWNSEND and CREW LLP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

SHAOHER X. PAN et al.

Application No.: 10/849,404

Filed: May 18, 2004

For: FABRICATION OF A HIGH
FILL RATIO REFLECTIVE
SPATIAL LIGHT MODULATOR
WITH HIDDEN HINGE

Examiner: Richard E. Hanig

Art Unit: 2873

COMMUNICATION - COMMENTS ON
STATEMENT OF REASONS FOR
ALLOWANCE

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Sir:

Applicants note that claim 1 recites:

1. A method of fabricating a spatial light modulator, comprising:
forming a first substrate defining a cavity;
fabricating an electrode on a second substrate;
bonding the first substrate to the second substrate;
forming a hinge and mirror plate on the first substrate; and
applying a reflective surface on a mirror plate and above a portion of the hinge,
the reflective surface having an area greater than an area of the upper surface of the mirror plate.

Applicants note that claim 27 recites:

27. A method of fabricating a plurality of mirrors for a spatial light modulator, comprising:

forming a cavity in a first side of a first substrate;

thinning a top layer on a second side of the first substrate to a predetermined thickness;

etching a hinge on the second side of the first substrate substantially beneath an upper surface of the thinned first substrate;

depositing a sacrificial layer on the second side of the first substrate;

planarizing the second side of the first substrate;

depositing a reflective surface on the second side of the first substrate;

releasing a mirror by etching;

removing the sacrificial layer on and around the hinge so the mirror can rotate about an axis defined by the hinge.

Applicants note that claim 39 recites:

39. A method of fabricating a spatial light modulator including an array of a plurality of mirrors, comprising:

generating a mask defining areas to be etched from a first side of a first substrate;

etching the areas on the first side of the first substrate defined by the mask to form a plurality of cavities in the first side of the first substrate;

fabricating electrodes on a first side of a second substrate;

bonding the first side of the first substrate to the first side of the second substrate;

thinning a top layer on the second side of the first substrate to a predetermined thickness;

etching a hinge in the first substrate;

depositing a sacrificial layer on the first substrate;

planarizing the first substrate to remove the sacrificial layer from an upper surface on the second side of the first substrate, leaving sacrificial material on and around the hinge;

depositing a reflective surface on the upper surface and above a portion of the hinge;

releasing a mirror by etching;

removing the remaining sacrificial layer from the first substrate so the mirror can rotate about an axis defined by the hinge.

None of the prior art references teach or suggest a method as recited in any of these claims.

Respectfully submitted,



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